	Application No.	Applicant(s)
Notice of Allowability	10/542,505	WENZLER, AXEL
	Examiner	Art Unit	
	Toan M. Le	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *7/6/07*.

2. ☒ The allowed claim(s) is/are *1-5*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

            International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael Striker on 9/19/07.

Abstract, "(Figure 1)" is deleted.

Please amend claim 1 as follow:

1. (currently amended) A method for evaluating phase signals for determining an angle or a path of a linearly or rotationally displaced component, the method comprising:

scanning a number (N) of measured phase values (Δ) at at least one phase sensor arranged on the linearly or rotationally displaced component;

transforming mathematically the measured phase values (Δ) into a new range using a linear transformation with a matrix (M_1);

determining a quality level (R) by producing a vector (T) followed by the result of a quantization operation (V) regarding the vector (T);

producing a further vector (X) from the difference (t) between the vector (T) and the result of the quantization operation (V) after a transformation has been carried out with a further matrix (M_4);

calculating a minimum value from the components (x_j) of the further vector (X) to derive the quality level (R); and

evaluating the phase signals and determining the angle or path of the linearly or rotationally displaced component based on the value of the quality level (R).

Please amend claim 2 as following:

2. (currently amended) The method as recited in Claim 1, further comprising determining the quality level (R) based on the following relationship:

$$R \cdot e_{max} = \min_{j=1\ldots nx} | D_j \pm x_j C_j |$$

whereby the quantities (C_j) and (D_j) are coefficients that are derivable from the phase signals.

Please amend claim 4 as following:

4. (currently amended) An apparatus for carrying out a method for evaluating phase signals for determining an angle or a path of linearly or rotationally displaced components as recited in claim 1 comprising:

an electronic circuit having:

a linear mapping module (M1) for processing the phase signals (Δ) with the matrix (M_1) and the quantization module (V);

a linear mapping module (M4) for producing vector (X) from the difference (t) of the vector (T) at the output of the linear mapping module (M1) and the result of the quantization operation (V) at the output of the quantization module (V); and

means for calculating a minimum value from the components (x_j) at the further vector (X) to derive the quality level (R), based on which the phase signals are evaluated and the angle or path of the linearly or rotationally displaced component is determined.

Please amend claim 5 as:

5. (currently amended) An apparatus as recited in claim 4, further comprising further modules (C) and (D) in which coefficients (C_j) and (D_j) are applied to the vector (X).

Allowable Subject Matter

Claim 1-5 are allowed.

Please see previous Office Action for reason of allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan M. Le whose telephone number is (571) 272-2276. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
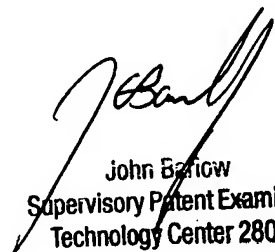
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Toan Le

September 19, 2007

John Barlow
Supervisory Patent Examiner
Technology Center 2800